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A Need for Work, A Need for Workers

by RAYMOND C. SMITH

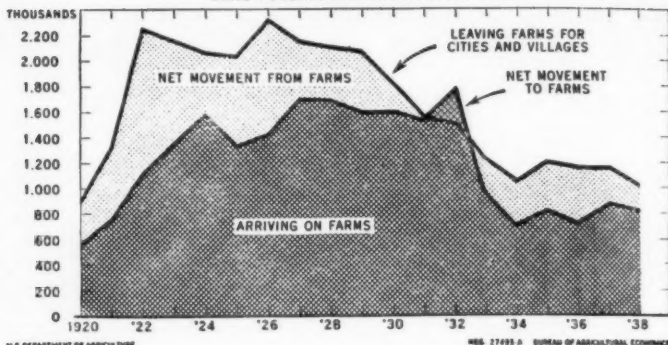
AN ARMY of people on American farms needs work. An enormous conservation task cries for attention on our land. To bridge this gap between idle men and undone work that must be done is a primary problem—of unemployment and underemployment, too.

Because many persons are convinced that unused manpower is purely an urban and industrial problem, remedial measures so far have been directed largely at the urban aspects. But we must remember that much of idle manpower stems from farms, and that any basic, fundamental approach must be through the source of the problem.

Like the problem of industrial unemployment and idle plants is the need on the farm to build back depleted soil, water, and forest resources, and to assure secure incomes and jobs for more than 3,000,000 men. Half of them were registered in 1937 as totally or partly unemployed, with neither a job nor a steady income. The other 1,500,000 and their dependents barely existed on gross cash farm incomes averaging less than \$200. Since farm operating expenses come out of this meager

MOVEMENT TO AND FROM FARMS, 1920-38

BIRTHS AND DEATHS NOT TAKEN INTO ACCOUNT



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amount, so little is left for living that relief payments are used to supplement the incomes of large numbers of these families.

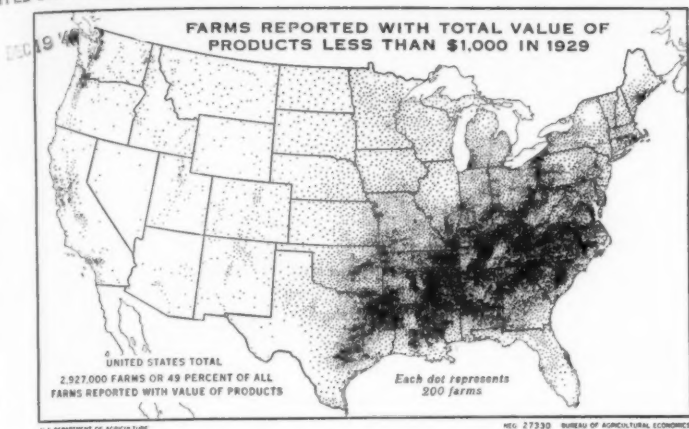
1,600 Million Man-Days for Conservation

It is estimated that these people represent an unused labor supply of at least 450,000,000 man-days each year. From these groups come most of the serious relief cases in rural areas and most of the landless migrants who search over the face of this rich earth for security.

But this is only one side of the problem. These needy people live in areas where natural resources have been punished the most severely, where soil depletion and erosion are the most advanced, where forests have been the most ruthlessly cut-over, and where land and water resources are the least protected from further abuse; and in these areas are to be found not only the greatest need for conservation but also the largest number of farm people in need of work. When we realize this, we begin to see an answer to the problem. It is estimated that more than 1,600,000,000 man-days of labor are required to accomplish much-needed conservation work.

Bringing together the poor, idle man on the land and the pressing conservation job is the task that lies before us. We know pretty well who and where the farm men without adequate incomes are, and the Forest Service and the Soil Conservation Service have studied carefully the areas where big conservation jobs remain undone.

A work program that would marshal this unused manpower to perform the needed task of conservation on the farm suggests itself as a natural solution to two problems: First, the immediate need of 3,000,000 farmers for jobs or supplemental income, and, second, the need of the land for conservation practices that will pay permanent



dividends in larger farm incomes and more secure homes. Thus, one check would pay two bills and a single stone could slay two Goliaths.

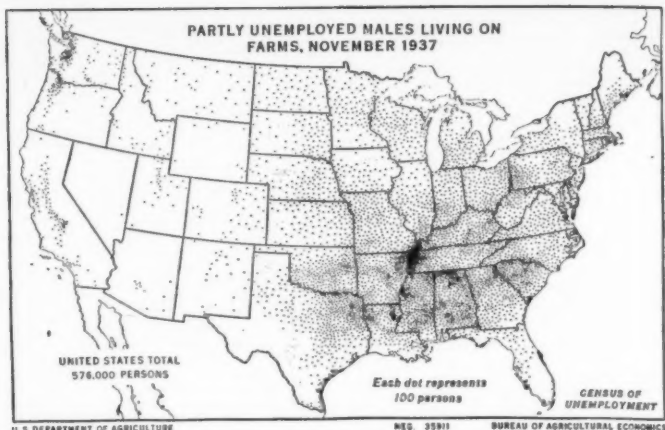
Sources of Farm Unemployment

Unemployment on farms comes from more than one long-time trend. For 60 years, from 1870 to 1930, the proportion of the total gainfully employed in farming has declined almost constantly. Annual net migration from farms to cities reached a peak of 500,000 to 1,100,000 from 1922 to 1926. Since 1926 the tide of net migration to the city has receded. Since 1932, when more people migrated from cities to farms than from farms to cities, the net migration cityward has continued at a rate of 200,000 to 400,000 each year. There is, besides, the net increase in the number of working males on the farms, amounting to 200,000 annually.

In the 1920's many of the unemployed on the farms and those dissatisfied with their lot on the farm moved to cities, where most of them found jobs. In the depressed 1930's, numbers of them went back to the farm. From the looks of things, rural areas will have to furnish opportunities for even more families in the 1940's and, since the natural increase within the farm population each year exceeds the net cityward migration, there has been a steadily increasing number of persons on farms since 1930. Probably more people live on farms today than at any other time in our history.

Programs Do Not Reach Enough Farmers

So it is that land that cannot support a family is being worked, and such words as "unemployment," "relief," and "rehabilitation"—



practically unknown to the agricultural economy a generation ago—are common today. More than 2,900,000 farms, almost half of the national total, reported production under \$1,000 in 1929. Here the birth rate is the highest, farms are the smallest in crop acres, the soil and people are poor, and the agriculture is either largely one-crop or comparatively noncommercial. The need for supplemental income is obvious. Over a wide area it is matched by the need of their land for conservation practices.

Present activities in the Department of Agriculture have not yet helped enough of these farmers.

Agricultural Adjustment Administration payments have gone quite generally to farmers in corn, wheat, and cotton areas. The Farm Security Administration has been able to take care of only a portion of these people through the rehabilitation program, often because limited soil resources have made it impossible to work out a balanced farm plan. Nor has the Soil Conservation Service been able yet to operate extensively in some of the areas of greatest human need. In fact, none of these programs was designed to tackle directly the unemployment problem on farms.

The Tragedy of Erosion

The extent of the conservation job often has been recounted. But a few figures will reemphasize it: An erosion survey in 1934 showed that approximately 52 million acres of land have been essentially destroyed for tillage; 151 million acres have been damaged severely and 1,373 million acres moderately to slightly damaged; from the billion acres

in farms, it is estimated that 3 billion tons of soil are removed every year by erosion.

Building and conserving these resources is the task that we have to do if we are to save our primary natural resource, the land, for the use of posterity and maintain it at its maximum effectiveness for the use of our own generation. Practically every State has millions of man-days available for this work. The following shows the regional distribution of both man-days of labor available each year and the man-days of labor required to accomplish the job:

	Total man-days available	Total man-days required
New England.....	8,725,000	57,261,000
Middle Atlantic.....	22,160,000	79,504,000
East North Central.....	50,084,000	234,398,000
West North Central.....	56,194,000	286,264,000
South Atlantic.....	81,283,000	322,386,000
East South Central.....	98,529,000	235,257,000
West South Central.....	96,880,000	245,821,000
Mountain.....	16,609,000	83,517,000
Pacific.....	16,056,000	77,731,000
Total.....	446,520,000	1,622,140,000

Computed in the column "Total man-days available" is the time of the 1,547,000 males living on farms who registered in the unemployment census of 1937 as totally or partially unemployed or as having only emergency employment; also 90 days' time of approximately 1,500,000 farmers in greatest need of supplemental income.

Benefits and Responsibilities of Society

A rural conservation works program directed toward conservation has been suggested by an Inter-Bureau Coordinating Committee of the Department of Agriculture. Society as a whole would be benefited by such a program. By the same token, society as a whole might well assume more responsibility through public action to assist in bringing about more conservation of our human, soil, water, and forest resources.

The program could be administered without great difficulty. The Department of Agriculture has already gained considerable experience in conserving natural resources. The kinds of appropriate measures are well known and are already being practiced, although on too limited a scale. Most of the work could be handled by unskilled labor under proper supervision. Unemployed and underemployed farmers are qualified. The work could be so scheduled that totally unemployed farmers could devote full time to it, while other farmers, a part

of whose time is taken by limited farming operations, could be available for work during off-seasons.

How the Program Would Work

Both public employment, supported by public works projects pay rolls, and private employment, supported by public or private credit, could well be involved. A distinction would have to be made between low-income or unemployed farm people and other farmers above the low-income level. Conservation work could be undertaken under the program on lands belonging to both types of farmers.

The laborers employed, however, on both types of farms should come from the unemployed and underemployed farm group. Where the conservation work would add substantially to the value of a farm owned by a comparatively prosperous farmer, the farm owner should either finance an appropriate part of the cost of such work himself through loans, or, when the work could best be performed through public projects, agree to repay a proper part of its cost, or stand a proportionate share of the total cost through contributions of material, equipment, or labor.

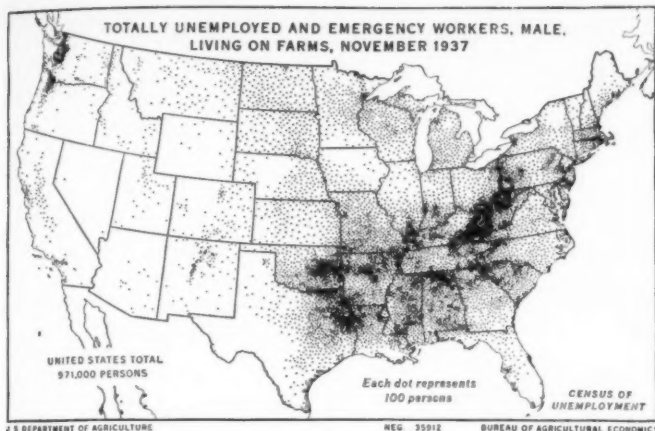
In cases where the owner of the land to be conserved might himself qualify as in the low-income group and in need of public assistance, or where proper leasing arrangements would assure the benefits to a needy tenant, it would be appropriate for the public to bear a large portion of the cost. It also would be proper for the public to bear all or a large part of the cost where the conservation work added little or nothing to the value of a particular farm but was undertaken primarily to protect other lands, highways, reservoirs, or other public properties.

Repaying the Costs

The determination of the part of the total cost that the land-owner should repay would be one important consideration in administering a rural-conservation works program.

Local committees of farmers could be used to recommend what fractions of the total costs should be borne by the public and the land owner. To the extent that public credit was used to support private employment in conservation work, lower interest rates or more favorable repayment terms, or both, might be made available to large land-owners who would agree to employ families certified as in need of public assistance. Less favorable terms might be offered where the borrower desired to employ other than needy people.

Within a particular area, and even on the same farm, a conservation program might be developed involving both public works projects and private work supported by public or private credit. Thus, a public



works project in a particular locality might be undertaken in which certain large-scale operations would be financed at public expense to constitute a developmental skeleton, while loans on a self-liquidating basis, or a combination of loans and grants, depending upon the economic status of the landowners, could be made to individual farmers for work on their own farms necessary to complete the area conservation plan.

It is now more generally recognized that there is a public interest and a benefit to the general public in conservation of our natural resources. It would seem, therefore, that the public should assume a part of the cost of conservation measures on privately-owned land. The public is already bearing a large relief burden which could be eliminated, or at least greatly reduced, through a rural-conservation works program.

Some Definite Possibilities

Some of the following approaches may be appropriate:

A program of forest-conservation works projects could be administered by leasing from or entering into cooperative arrangements with the owners of private forest lands. Such work as tree planting and forest restoration, fire protection, sustained yield management, and harvesting of timber could be accomplished by the Government, the owner's contribution being made by turning over to the Government an agreed-upon portion of the returns from timber sales.

Soil- and water-conservation works projects could be administered by the Government through cooperative agreement with the owners



of private crop and grazing lands. Terms of the cooperative agreements with private land owners could assure the Government that the land would be managed properly after completion of the work and should state the amount which would be repaid to the Government.

If the necessary machinery were created, loans might be made to forest products enterprises not only for direct conservation work, but for business purposes such as mill construction or expansion, and road building, with the loan agreements providing for sound conservation practices and sustained yield management.

Adequate amounts for conservation work could be included in all tenant purchase loans.

Short-term conservation loans could be made to farmers for terracing and other conservation practices on their farms. Loans also could be made to cooperative associations for such purposes as limestone crushing and purchase of terracing equipment. Production-credit associations and banks for cooperatives could well expand this type of activity.

Funds for adequate conservation work could be included in all long-term loans made by Federal Land Banks and by the Land Bank Commissioner. Considerable conservation work might be accomplished on farms acquired by Federal Land Banks or by the Federal Farm Mortgage Corporation through foreclosure before disposal of such land to new owners.

In connection with a farm-mortgage-refinancing program involving



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debt adjustment, funds might be made available for needed conservation work on the farms involved. Present excessive farm debts are a major factor in soil depletion, since excessive debt charges often not only prevent needed expenditures for correcting existing conditions, but actually force mining of the soil resources in order to meet debt payments.

If loans to low-income farm families could be combined with grants for accomplishing conservation work upon the farms where these families live, not only could more low-income families participate in the rehabilitation program, but needed conservation work improving the opportunity to make a living on the land might be accomplished. Where such low-income families own their farms, procedures could be very simple. Where there are tenants, appropriate leasing arrangements would be necessary to assure the benefits to low-income families.

To Sum Up

The unemployed human resources and the need for protection and conservation of wasting physical resources lie side by side in the same areas. A rural-conservation works program would provide unemployed and under-employed farm people an opportunity to use their unoccupied time in earning much-needed immediate additional income in an activity which would improve the physical resource base upon which they must depend for a living in the future.

Toward a Conservation Balance

by W. F. WATKINS

CONSIDERING the ever-widening stream of literature dealing with soil conservation, it is surprising to note how much of it concerns either specific practices or the broad social need for conservation, and how little of it is concerned with attempting to define the desired conservation balance, to set specific goals in terms of practices and cropping systems, and to measure the progress that our research, education, and action programs are actually achieving in moving toward the desired goal.

In this article, the writer will attempt to explore this neglected section of the field. Since any estimates or conclusions must necessarily be provisional, it is proposed to start with a statement of conclusions, to be followed by a summary and appraisal of such evidence as may be available and some suggestions for further work.

The Conservation Balance

For the present, it is suggested that *the goal or "conservation balance" toward which we want to work is those uses of land (including farming, grazing, and forestry) that will keep the soil intact and maintain productivity at a level appropriate to the characteristics of the soil in its environment.*

This is not arguing that the goal is "maintenance plus," except for those areas or kinds of land where productivity can be maintained most economically by reversing a downward trend. Nor does it mean that productivity should be restored to the precultivated or ungrazed state, nor even that it is necessary to maintain current fertility in areas where further decreases eventually can be offset at an assured reasonable cost, or areas where the permanent-use level is below the present level.

But it is arguing that man-induced erosion should be minimized and that further depreciation of the productive capacity of any of our soils should be sanctioned only after serious consideration of the social costs and benefits involved.

Regarding the attainment of conservation, three classes of devices must be considered:

The use and management of vegetative growth to halt erosion or restore productivity, including the use of legumes and management devices like deferred and limited grazing, cover crops, and green manure crops, shifts from soil-depleting to soil-conserving crops, and the revegetation of certain classes of land;

The use of mechanical practices, such as contour tillage, basin listing, terracing, contour furrowing, and the various devices for controlling gullies and stream erosion; and

The use of soil amendments like lime, fertilizer, and manure, or other sources of organic matter that will improve the condition of the soil or add productive elements to it.

Which one or combination of these devices is most effective or economical depends on the characteristics of a soil type or group, location, prices, population pressures, and the prevailing types of farm and ranch organization in an area or region.

Some Conclusions

After examining data available in Washington within the Soil Conservation Service and the Bureau of Agricultural Economics, I wish to suggest the following necessarily tentative conclusions which at least offer grounds for argument.

First, a conservation balance has not yet been formulated for most of our farm and pasture land, although considerable progress is being made as a result of the activities of the several agencies working in this field.

The available data indicate that a conservation balance has been established so far on only about 40 percent of our cultivated cropland, that much of our farm pasture land still is improperly used, and that a relatively small acreage of range land is supporting the type of vegetation that best promotes conservation and watershed protection. Or, stating it another way, it is estimated that our soil resources are being depleted at a rate between one-third and two-thirds of 1 percent annually.

Second, the acreage of the principal soil-depleting crops in the better farming areas has been reduced about as much as is needed in the interests of conservation, but only a very modest start has been made toward retiring the needed acreage of submarginal land from cultivation. As a result of the agricultural conservation program, the acreages of the principal soil-depleting crops are currently 25,000,000 to 35,000,000 acres below the 1928-32 level. As far as conservation is concerned, this reduction is perhaps sufficient, provided the right acres are taken out of cultivation, and provided they are correctly used. But another needed change is a shift of submarginal cropland (and land that can be farmed only temporarily) into other uses like grazing, forestry, and recreation. It is doubtful whether much more than 5,000,000 acres, or 10 to 15 percent of the acreage that eventually must be shifted, has been so changed.

Third, the general adoption of a wide range of additional soil-conserving practices is badly needed, and we are a long way from what seem to be reasonable goals in this field. For example, it is estimated that we are currently using contour tillage on not more than 5 percent of the 225,000,000 acres that need to be so tilled, that we are

using cover crops and crop residues on only about 20 to 25 percent of the 125,000,000 acres that should be treated in this manner, and that permanent and semipermanent practices, like terracing, strip-cropping, and contour furrowing, probably have been adopted on only about 5 to 15 percent of the land where they are needed.

Two Points for the Future

Regarding the future, two points need emphasis:

First, agricultural workers interested in conservation should attempt to interpret and tie together all available research and demonstration material in terms of goals or acreages of land on which certain specified soil-conserving practices should be carried out, and on which certain crop rotations should be followed.

Second, the agencies interested in individual farm planning should try to formulate a technique to allow farmers to outline a complete farm conservation system that would require a minimum amount of technical help and that would be as useful as possible to farmers participating in the action programs of the Department of Agriculture.

Other conclusions, of course, could be discussed. For example, we clearly have enough farm land now to meet, or more than meet, our needs. And, as a result, it is to be expected that farmers themselves will be rather skeptical as to the value of conservation unless the methods recommended are relatively economical or very simple and practical, and unless the Government or the general public is willing to help bear the cost.

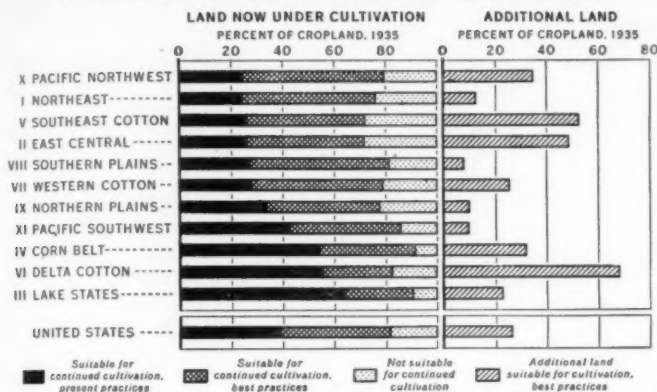
Again, we undoubtedly are currently drawing upon the supplies of minerals and organic matter much faster than they are being replaced as soil amendments. But the question as to when and where the amendments should be added can be deferred, except as they are needed for efficient production or the establishment of vegetation as a device for holding the soil in place—that is, if man-induced erosion can be stopped.

Our Farmland, Now and Tomorrow

Several pertinent questions regarding present and future use of our crop and pasture land should be considered. How much land are we now using? In what condition is it? How much do we need? How much is available?

Farmers now cultivate annually about 375,000,000 acres of cropland—about 25,000,000 fewer acres than were tilled before 1934. Anyone considering the current supply of land might conclude that there is no point in conservation—that we now have more land than we need. But the argument for conservation goes far deeper than the immediate need of halting accelerated erosion. We need to conserve our

ANALYSIS OF LAND SUITABLE FOR CULTIVATION



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greatest natural resource, the soil, in order to stabilize farming and guarantee our ability to meet any future demand.

The fact that the available cropland exceeds current use does not mean necessarily that either the demand or the supply is fixed for the future. Erosion, the greatest single factor in soil deterioration, is generally prevalent throughout all our better farming areas, except the Mississippi Delta and part of the Corn Belt.

In fact, the Soil Conservation Service, in cooperation with other technical agencies, estimated in 1937 that only 39 percent of the land classed as cropland in the 1935 census could be indefinitely continued in cultivation under present practices, and that even assuming the use of best conservation practices, not more than 82 percent can be continuously cultivated. According to these estimates, 18 percent of the land in cultivation in 1935 eventually must be retired from cultivation.

Where More Conservation is Needed

Adjustments in land use and the adoption of additional conservation practices are most needed in the Pacific Northwest, in the Northeast, in the Southeastern cotton and the East Central regions. Adjustments and additional practices are needed on the smallest percentage of cropland in the Lake States, the Corn Belt, and the Delta Cotton regions. The cropland needing additional practices ranges from 26 percent in the Lake States to more than 50 percent in four of the regions shown on the chart.

There is not a direct relationship between this percentage and the extent and seriousness of the conservation problem or the devices needed

to obtain a conservation balance. For instance, more complex devices are necessary on the lands needing treatment in the Delta Cotton region than in the Northeast.

A higher percentage of cropland must eventually be retired from cultivation in the Southeastern cotton and East Central regions than in the other regions. Only small percentages are indicated for retirement in the Corn Belt and the Lake States. On the other hand, the relative supply of land not now in cultivation but suitable for cultivation is largest in the Delta cotton and Southeastern and East Central regions, with only a small percentage of additional land available in the Southern and Northern Great Plains, the Pacific Southwest, and the Northeast. Some of the additional Western land will be very productive, however, since it can be irrigated.

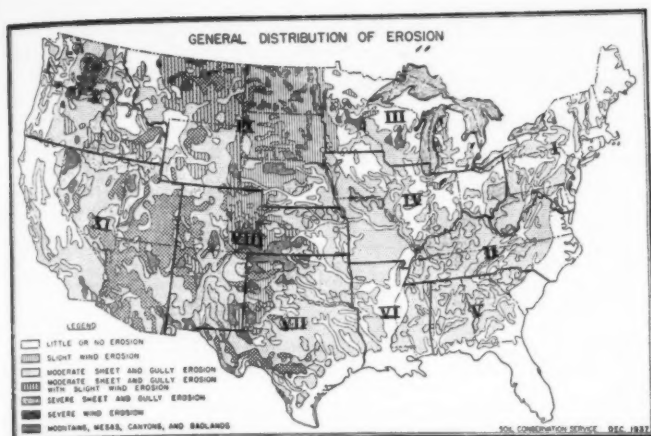
Comparable estimates of the current condition of pasture and range land are not available, but the writer believes a large amount of farm pasture land needs additional conservation measures.

The Forest Service estimated in 1935 that the Western ranges were overstocked almost 60 percent, and that approximately 75 to 80 percent of the 728,000,000 acres covered by their study was subject to continued deterioration and erosion. These estimates seem extreme, but much of the range land undoubtedly is overgrazed and considerable areas need a decrease in the grazing load.

Greater Production May Be Needed

There is good reason to think that some day we may require more production than is demanded today. We are not ready to admit that our foreign market is permanently diminished to its current level. Our population still is increasing; even if it stabilizes at about 150,000,000 with average per capita consumption and with some further increases in crop yields, an extra 25,000,000 to 35,000,000 crop acres eventually may be needed; and finally, a great potential demand for more foodstuffs and more clothing exists among our low-income groups, provided we can find some way of giving them the necessary purchasing power.

Fortunately we have the land to replace any acreage that must be retired sometime, or to meet these additional demands. The Soil Conservation Service estimated more than 100,000,000 acres not in cultivation are suitable for tilling, assuming the use of the best conservation practices and price levels equal to those prevailing in 1921-36. But even if additional demands can be met with new land, it is still desirable to practice conservation in order to save the cost of clearing and draining, to maintain a stable community life, and to maintain current acreages of hay and pasture, because much of the available new land is now pasture land.



Progress in Achieving Soil Conservation

Considerable progress has been made in reducing the acreage of soil-depleting crops. In this connection, the Soil Conservation Service has brought about reductions of 15 to 30 percent in some areas, or perhaps 1,000,000 acres all told. But for the whole Nation, there has been a reduction of about 28,000,000 acres in the two principal row-cultivated crops of corn and cotton since 1928-32, chiefly as a result of the agricultural conservation program.

A comparison of the average acreage of the principal soil-depleting crops in 1928-32 and recommendations obtained from technicians in the regional adjustment project, recommendations obtained from farmer representatives in the early county planning project, and the estimated average acreage for 1938-39 are shown in table 1.

The Use of Former Corn and Cotton Land

To what use has the acreage taken out of corn and cotton been put?

A considerable portion of the acreage taken out of soil-depleting crops undoubtedly has been retired permanently from cultivation to pasture, forests, and other permanent vegetative cover. In addition, about 3,000,000 acres of cropland in the United States have been designated as "restoration land" under the agricultural conservation program, and a sizeable portion of the acreage shifted out of corn in the Middle West and cotton in the South undoubtedly has been retired permanently from cultivation. The annual report of the Soil Conservation Service shows that more than 1,000,000 acres of submarginal land have been taken permanently out of cultivation through the land

TABLE 1.—Progress in adjusting acreages of principal soil-depleting crops

Crops	Average acreage 1928-32 ^a	Acreage recommendations ^a		Estimated acreage average 1938-39 ^b
		Regional adjustment	County planning	
		<i>Millions of acres harvested</i>		
Corn.....	103.4	86.5	94.0	90.1
Oats and barley.....	52.7	49.4	46.2	45.2
Wheat.....	60.1	51.7	57.9	61.2
Cotton.....	40.5	38.4	31.9	24.1

^a Acreages recommended for soil conservation and good farm management. *Agricultural Adjustment, 1937-38, G-86, Agricultural Adjustment Administration, January 1939. Table 23, p. 161.*

^b *Crops and Markets, United States Department of Agriculture, December 1939.*

purchase program and a retirement from cultivation of 14 percent or about 1,000,000 acres of cropland on farms cooperating with the Service.

Some data on accomplishments in the application of annual and permanent or semipermanent soil conservation practices and soil amendments have been obtained from reports of the Soil Conservation Service and Agricultural Adjustment Administration, and a survey conducted in 1938 by the Division of Crop and Livestock Estimates at the request of the Program Planning Division of the Agricultural Adjustment Administration. These details are shown in table 2.

Such practices as contour tillage and the use of cover crops are annual practices; terracing, strip cropping, and contour furrowing become a permanent or semipermanent part of the farm operation if properly maintained. Fertilizer applications must be repeated from time to time. Lime must usually be replaced every 15 to 20 years. The estimates in the first two columns of table 2 cover all farms; but the data in the last two columns show only the acreage of practices that farmers cooperating with the particular agency carried out. In general, farmers are making material progress in adopting those additional conservation practices that are needed most.

Suggested Goals for a Conservation Balance

Conservation and good farm-management goals for acreages of specific crops were established in the studies carried on by the Program Planning Division of the Agricultural Adjustment Administration in 1934-36, both with the judgment of farmers and technicians. Acre-

TABLE 2.—*Some soil conservation accomplishments, 1928-32, 1937, and 1938*

Practices	Estimated total acreage		Practices reported for cooperating farmers, 1938	
	Average 1928-32	1937	Soil Conservation Service ^a	Agricultural Adjustment Administration ^b
Annual:		<i>Thousands of acres</i>		
Contour tillage.....	(°)	(°)	2,714	5,493
Cover crops and green manure crops.....	5,219	11,574	^d 445	25,243
Permanent or semipermanent:				
Terracing.....	1,377	2,519	322	891
Strip cropping.....	(°)	(°)	955	713
Contour furrowing.....	(°)	(°)	176	^e 2,275
Soil amendments:		<i>Thousands of tons</i>		
Limestone.....	3,286	6,969	^f 78	5,019
Fertilizer.....	6,990	8,139	^f 25	508

^a Practices reported for fiscal year 1938-39.^b Preliminary estimates, based on data supplied by Agricultural Adjustment Administration.^c Not estimated.^d Winter cover crops.^e Contour furrowing and ridging range and pasture land, and contour and basin listing cropland.^f Estimated.

age goals of land suitable for cultivation were established in the estimates made by the Soil Conservation Service and others in 1938. Additional estimates have been expressed regarding the retirement of cultivated land in reports of the National Resources Board.

These suggestions deal with shifts from soil-depleting to soil-conserving crops, retirement of submarginal cropland, and land on which additional or improved soil conservation practices should be used. Altogether, they indicate that the acreage of soil-depleting crops should be maintained at a level about 25,000,000 acres under the average acreage for 1928-32, that some 15,000,000 acres of submarginal land should be retired from cultivation in the reasonably near future, and that perhaps as much as 50,000,000 acres more must eventually be retired.

A more complete report for a region, the Southern Great Plains, was prepared under the direction of H. H. Finnell of the Soil Conservation Service. That report recommends that about 20 percent of the

cultivated land be restored to range, that 20,000,000 acres, or 80 percent of the cropland be terraced and contour farmed, that an additional 10 percent be contour farmed, and that approximately 55 percent of the range land, nearly 40,000,000 acres, be contour furrowed. In addition, it is recommended that water-spreading structures be used in connection with 12 percent of this range land.

It would seem desirable to have such goals for each region and for the whole Nation. Such national goals can be roughly set for some practices by using the data for farms covered by soil conservation plans in demonstration projects, C. C. C. camp areas, and soil conservation districts cooperating with the Soil Conservation Service. These Soil Conservation Service figures are compiled from more than 700 work units located throughout the country and represent a fairly good national cross section.

Suggested national goals include:

Annual:	<i>Acres</i>
Contour tillage.....	227, 064, 000
Cover crops and crop residues.....	125, 873, 000
Permanent or semipermanent:	
Retirement from cultivation.....	49, 993, 000
Terracing.....	139, 865, 000
Strip cropping.....	108, 213, 000
Contour furrowing.....	60, 945, 000

These estimates are on the basis of practices planned in Soil Conservation Service work areas, as given in the 1939 report of the Chief of the Service, and the ratio of the 20,123,000 acres of farm land covered by such plans to the 1,054,515,000 acres of all farm land.

As to goals for soil amendments, only a rough estimate can be made. It is generally agreed that the greatest need for limestone is in the States east of the Mississippi and Missouri Rivers and in the Pacific Northwest. If we assume that 75 percent of the cropland area, an area of pasture land equal to one and one-half times the plow-pasture acreage should be limed at a rate of 2 tons of agricultural limestone an acre, there is a potential need for approximately 500,000,000 tons of limestone in this area for immediate use to correct soil acidity. Additional amounts will be needed from time to time. Some fertilizer is also needed in connection with the establishment of soil-conserving grasses and legumes, especially in the South, East, and Middle West.

Looking Ahead

Looking into the future, we see several problems for which a satisfactory solution has not yet been developed or obtained. There is

need for pooling the efforts of technical experts and farmers in completing the job of setting goals for conservation practices and soil amendments desirable from the standpoint of best land use, considering physical, economic, and social factors. Such goals cannot and should not be considered as final but as guides to measure progress. County and State land-use planning committees could be especially helpful in this field.

In addition, a uniform terminology and system of reporting conservation activities, both with respect to established goals and the progress in achieving conservation, are needed.

Desirable also are techniques in farm planning that will allow the application of conservation principles in the simplest manner possible—that is, a method of farm planning that will allow farmers to determine changes in use, conservation practices, and soil amendments required for each acre and needing a minimum of technical help. At present several action agencies—the Soil Conservation Service and the Farm Security Administration, especially—are directly interested in developing individual farm plans, and the Extension Service and the farm-management researchers have long been encouraging farm planning as a means toward more efficient farm management.

It would seem desirable to develop a simplified and coordinated planning procedure by which the most economical devices for obtaining a soil-conservation balance on each farm could be developed and carried out by the farmers themselves with minimum technical assistance, and which would be useful to the farmers in connection with their participation in such national programs as the agricultural conservation program or the standard loan program of the Farm Security Administration.

Such an endeavor should receive the support of all agencies interested in conservation or the internal organization of individual farms, since conservation objectives are, after all, based upon the hope that all farmers will eventually approach the problem systematically, acre by acre and field by field.

City Growing Pains in the Country

by OMER L. HIRST

WHEN CITY problems move to the country, what happens to the country? More specifically, what happens when a twentieth century city spreads out over part of a rural country whose governmental machinery has undergone few fundamental changes since the Civil War?

The rise of the city and the growth of the area around it have been phenomena of great social, economic, and political significance in American history. Much has been written about the many problems that have followed the trend toward urbanization, but a word remains to be said about the problems that confront a farming area as the metropolis reaches out and gradually engulfs it.

This is an account of some of the experiences of a Virginia county that has been—and still is—in the throes of growing pains because of the enlargement of its neighbor, the National Capital.

Fairfax County, in northern Virginia, had a population in 1930 of some 25,000 persons. Its area is 417 square miles. Half the county lies well within easy commuting distance of Washington, D. C., and is being suburbanized rapidly, but the other half is still devoted primarily to agriculture. There are some 1,500 farms in the county; it ranks second in Virginia in value of dairy products and stands high in poultry production.

From this dual nature has come a conflict of city and rural interests.

Most of Revenue Comes From Real Estate Taxation

In Virginia, the revenue derived from the taxation of real estate is segregated for the use of local government; 69.5 percent of Fairfax County's income in 1937 came from the taxation of privately owned real estate, and about 16 percent came from the taxation of the real estate of public utilities.

The assessed valuation of the real estate owned by public utilities in a given county is certified to that county each year by the State corporation commission, which regulates public utilities. All other real estate in the given county is assessed by that county; the usual method is to make a physical assessment periodically and to adjust that assessment from year to year according to changes like additions, fire losses, and divisions.

The Virginia constitution specifies that all taxable real estate shall be assessed at its fair market value, but the State corporation commission holds that this provision is not followed generally by the various assess-

ment jurisdictions, and that therefore the real estate of public utilities shall be assessed on the basis of a State-wide average.

The use of such an average, which has been estimated in recent years to be 40 percent of the fair market value, recognizes the prevailing lack of uniformity in the assessment procedure and also establishes a definite limit above which the percentage of fair market value at which privately owned real estate is assessed equitably cannot go.

Five Towns Complicate the Situation

The assessment situation in Fairfax County is further complicated by the five incorporated towns within or partly within the county. Three towns are suburban and two are in the farming area. Their total assessed valuation is approximately 16 percent of that of the whole county. Besides the real estate taxes collected by the county, each town places an additional levy on the real estate therein, to provide revenue with which to pay the cost of the town government.

But in taxing that real estate, the town must use the county's assessed valuations. Further, the town cannot legally issue bonds to a greater amount than a specified percentage of the assessed valuation of its real estate.

In the case of the town that is now growing most rapidly, that limit is 18 percent. Thus it is easily seen that the rapid growth of such a town and the accompanying demand for governmental services can bring serious problems if the increase in assessed valuations is allowed to lag far behind the increase in real-estate values.

As a matter of fact, real estate in Fairfax County is still being assessed on the basis of an assessment, conducted in 1930, in which each assessor had to appraise some 80 parcels a day.

Assessed Valuations and Sales Values

The most authoritative report on the assessment situation in Fairfax County is the result of a survey, undertaken in 1936 by the State department of taxation, to analyze each recorded real-estate transfer and to compare the sale price with the assessed value.

Approximately 1,600 transfers were recorded that year, but in reaching its conclusions, the State department of taxation disregarded about 400 believed to be extreme cases.

It was found that the average assessed value was 24.66 percent of the sales value, but the individual assessed valuations ranged from 2 to 250 percent of the selling prices.

Reliable figures showing the increase in population since 1930 are not at hand, but especially significant are trends in school enrollment and costs, because about two-thirds of county expenditures each year are devoted to education. The enrollment for the 1939-40 school year is 49 percent above that for 1931-32. During that period, 1931-39,

school property values increased 108 percent, and the school budget 67 percent.

The real estate valuation placed by the county did not increase so rapidly; the assessed valuation in 1931 was \$11,342,204 and \$13,652,315 in 1939, an increase of 20 percent. This increase was due to improvements because there has been no reassessment of land since 1930, although many land values have increased tremendously.

What this increase in expenditures, without a comparable increase in the tax base, has meant for much of the farming section becomes apparent when one examines the tax rate in Dranesville district, the most agricultural of the county's six magisterial districts.

Farm Production and the Tax Rate

In 1932 the tax rate per \$100 of assessed valuation in this district was \$2.80; by 1939 it had climbed 12 percent to \$3.14. Yet it is estimated that if State-wide averages are valid for Fairfax County, the value of farm production possibly has decreased as much as 20 percent since 1930. (The farmer's plight is not quite so bad as this might indicate, because the average general-purpose farm, if at all suitable for a country estate, can usually be sold for more than is justified by its earning capacity. But this is little consolation to the farmer who wants to keep land he has owned for years.)

Suburban residents demand school improvements and a general extension of governmental services. They criticize overcrowded school-rooms and school busses and sometimes inadequate fire protection, and demand sound planning and zoning laws and many other improvements expected in a prosperous area. They argue that it is not their fault that a model-T assessment machinery cannot catch up with V-8 conditions, and that their children are in school today, not a decade or two hence.

Suburbanites and Farmers Alike Complain

The farmers say they are tired of educating city people's children. They contend that the rapid suburbanization in the other end of the county has meant mostly a rise in the wages they have to pay their help, tax increases, and a general complication of the county government problems. They maintain that the increase in expenditures is caused largely by the rapid growth of the suburban part of the county and that they are paying more than their fair share of the bill.

Irrespective of these arguments about spending and not spending, it is apparent that the county's tax-gathering machinery is not geared to reach the steadily rising real-estate values in much of the county as the increases occur, and that the existence of this situation is an indictment of the assessment procedure that has been followed in most Virginia counties.

An appreciation of the seriousness of the assessment problem led the Fairfax County Chamber of Commerce to make it a topic of study, in the course of which a committee examined assessment procedures in Washington, D. C., and Henrico County, Va., which is just outside the city of Richmond and has an up-to-date assessment system operating under conditions similar to those in Fairfax County.

Recommendations Are Made, But Action Is Slow

The committee made several recommendations. These included a further investigation of the value of a real property survey to obtain an adequate file of assessment information, including tax maps; the need of an improved building-permit ordinance to facilitate the proper assessment of newly constructed buildings and additions; careful selection of assessors on the basis of professional qualifications; a citizen's advisory committee on reassessment to continue the study and to try to effect greater cooperation among public officers, boards, and commissions concerned with different aspects of the assessment procedure (under the existing system, some eight of them may have some part in assessing and taxing a piece of real estate).

The recommendations were made to the county supervisors in January 1939, one year before the required real-estate assessment in 1940, but no action was taken except on the creation of the suggested citizen's advisory committee. In November 1939, however, the supervisors authorized the preparation of improved assessment cards that would give the assessors many details concerning sales prices, previous assessments, acreage, and ownership, and would provide for collecting exact information on improvements.

Aerial Maps Authorized

The cards previously used did not mention the nature or condition of the improvements, but merely gave a lump-sum assessment for all the improvements on a particular property. Probably the new card system will be of great value in future assessments and in hearing appeals from the assessors' judgment.

The board also authorized the use, as a substitute for tax maps, of aerial photographic property maps which, it is hoped, will be the beginning of an atlas system that will be helpful to assessors and the planning and zoning commission alike.

Suburban residents look to the 1940 assessment to enlarge the real estate tax base and thereby make more money available for schools and other governmental services. Farmers hope it will enlarge the tax base and ease their tax burden by increasing suburban assessed valuations and leaving farm assessed valuations about where they are now.

The fulfillment of these hopes depends largely on the quality of the current assessment, which in turn depends largely on the preparations made to insure a good assessment.

Of great importance is that the scattered responsibilities for different aspects of the assessment function be centralized and clearly delegated to the board of supervisors, with the necessary authority to insure that it will be discharged effectively.

Assuming the adequacy and efficiency of assessment machinery, what would be the effects of applying the basic rule of fair market value, as required by the State constitution? How would its application affect farm real estate, suburban real estate, timberlands, and lands abandoned for farming?

The Influence of Speculation

Answers to these questions would be greatly influenced by the location of a parcel of real estate—if a farm is in the suburban area, it is probable that its fair market value will be substantially above that reached by capitalizing earnings. Its owner is both a farmer and unconsciously a land speculator, and to assess his farm on the basis of its agricultural productivity and to disregard its speculative possibilities for residential and commercial development is to subsidize that farmer in his speculative activities and to increase the tax burden on the other land owners.

On the other hand, in cases where fair market value can be obtained only on the basis of ability to produce, those farms might be assessed substantially lower than before. In other words, the application of the rule of assessing at fair market value would recognize the difference between the farm whose only value is based on what it will produce and the farm whose value depends on its possibilities as a subdivision.

When the Virginia State Planning Board undertook to compare land classes and tax delinquency in Fairfax County, it found that poor farm land—land that should not be farmed at all—had the highest delinquency rate of all land classes in the county. In most cases the logical use for this land is to allow it to return to forest, and so under the fair-market-value rule such land would be assessed at an even lower value than land that already has a crop of timber growing on it. (Timberland in Virginia is taxed each year at assessed value; the severance tax employed in some States is not used.) Here again, however, fair market value would differentiate between land that is not being farmed because it is too poor and land that is not being farmed because it is too expensive.

In assessing suburban real estate, the rule of fair market value alone possesses sufficient flexibility to permit adjustments for the possible

rapid changes. Real-estate values in an area that is being suburbanized rapidly are subject to fluctuation, for the construction of an arterial road into the city, the increase in service facilities, like gas and water, and other improvements can have an immediate and decided effect on suburban real-estate values.

The rule of fair market value, if applied intelligently and consistently, can have good results under these conditions.

COMMUNICATION

SIR:

Upon call of Morris Llewellyn Cooke, 52 citizens of 38 States on March 22 and 23 in Washington organized to support and forward the unified conservation of "soil, rain, and man." With Mr. Cooke as president, and a board of 40 trustees, "Friends of the Land" will publish a monthly magazine, "The Land," maintain a Washington office and field auxiliaries, and seek to advance the idea that conservation is an essentially coordinated undertaking, both here and abroad.

Organized outside of the Government, the new society will seek subscriptions and backers among citizens in general, both within the Government and without. The aim is nonprofit, nonpartisan, non-factional.

Mr. Cooke was the first administrator of the Rural Electrification Administration, and on the Mississippi Valley and Great Plains committees. Russell Lord was named editor. R. G. Tugwell, Paul Sears, Dr. Isaiah Bowman, Stuart Chase, Aldo Leopold, J. N. Darling, and Dr. J. Russell Smith are on the board of trustees.

Gerald W. Johnson, author of *The Wasted Land*, wrote this about the meeting:

"Whether or not the Friends of the Land are taking the best approach to their problem is debatable. They are not at the moment pressing any specific program of legislation. They are attacking, rather, the problem of public ignorance and inertia. This is most difficult, but it has the advantage of being a frontal attack. If the American people were actually informed and alert, then programs of legislation would be merely matters of detail. The question comes to a matter of time."

Further information can be obtained from "Friends of the Land," 312 Denrike Building, Washington, D. C.

Sincerely yours,

CHARLES W. COLLIER,
Executive Director.

34 Owners and Mr. Henninger

by CURTIS J. SPALDING

IN THE early 1930's the theory that a farmer with his garden, cows, pigs, and poultry was self-sufficient and independent received a severe jolt. We in the West had heard vaguely of city bread lines and relief measures, but rural relief had always been inconsequential. It had been taken care of by local charities, and chiefly through various forms of credit.

As farmers and stockmen made heavy demands for help, and with the advent of the billion-dollar relief appropriation, it became evident that something was wrong with the business of agriculture—drouth, insect damage, and ruinous prices, but not they alone.

So land use adjustment programs were begun in 1934. Study and examination showed that large areas in Montana were not producing under their current form of management. Dry-land farming, especially in eastern Montana, was unsuccessful. Many range lands were found to be depleted. Wind erosion had become a problem on both misused range lands and cultivated farms. And there were large tax delinquencies, unpaid seed loans, and properties lost through mortgage foreclosures.

Dry Lands with Few Uses

It was indubitably evident that the lands in question, to become an asset to the people and community, must be devoted to a more productive use. Dry lands in Montana do not have a variety of uses. When wheat farming on this land fails, the only alternative is feed crop and grass production for livestock. A small amount will produce feed and hay when flood irrigated.

The pattern of land ownership was not conducive to immediate livestock operations. It was frequently cut into small parcels under various ownerships, much of it plowed, and, from a forage standpoint, unproductive. The estimated carrying capacity for an 8-months' grazing season is 10 to 12 animal units to the section. A ranch capable of carrying 100 head of cattle should have at least 10 sections of summer range and 3 or 4 of winter range. Too many operators remained, in most areas, to allow each a minimum economic unit.

Livestock operators competed keenly for a unit of economic size. Many farmers still attempted to produce cash crops on much of the land. Management of nonresident and corporate-controlled lands was aimed simply at getting the greatest returns in the shortest time. These factors resulted in a ruinous insecurity of tenure.

109 Transfers of Land

To illustrate these conditions, let us analyze a representative unit, one now operated by J. A. Henninger near Roundup, Mont. It consists of 10 sections of feed crop and grassland that can support 100 animal units on a 12-month basis. When the seeding program on abandoned farm land is completed, it will support 135 head.

Since the first grant of title to this land, there have been 109 transfers and 29 different families resident on the land now controlled by the present operator. In 1934, he had to deal with 34 different owners to obtain leases to protect his unit. Competitive bidding for good land frequently broke up the unity of the ranch. Land owners were constantly seeking a greater income from their lands and were prone to lease on a "share crop" rather than a grazing basis, thus perpetuating misuse.

Mr. Henninger now deals with 13 owners in controlling his unit. It is well blocked and developed for efficient management. He feels that he has a security of tenure such as he never enjoyed before. As time goes on he will, no doubt, be able to purchase and secure greater control. The land utilization program, which assisted in making this adjustment possible, has purchased 960 acres at a cost of \$2,786.

The development work on this land includes 109 acres of contour furrowing at a cost of \$90.47, farmstead obliteration \$35, and livestock water developments \$1,330.92, a total of \$1,456.39.

How Mr. Henninger Operates

The effectiveness of the adjustment program is shown by a brief history of Henninger's operations. He moved to his present location in 1928, and was financed for 186 head of mixed cattle at the high prices then prevailing. At the beginning of operations, the range was understocked. By the time the herd had been built up in 1934, the range was overstocked, a result of the operator's attempt to meet expenses induced by high operating costs, leases, and taxation.

By 1936, this overstocking, coupled with drouth and insect damage, had seriously depleted his range. The herd was reduced to 50 head; this cut the mortgage to \$4,000, but by fall it had increased \$700 and the mortgagee demanded his money. The Farm Security Administration cooperated with the operator and took over the loan.

During this period of changing circumstances, Henninger bought Prince Domino bulls and carefully selected and bred the cattle he kept. In 1938, through careful management and controlled grazing, with ample water and high-quality cattle, the operator realized a 100 percent calf crop. He marketed \$3,000 worth of cattle that fall. In 1939, careful management again produced a 100 percent calf crop. That fall, \$2,440.80 worth of cattle were sold.

At the beginning of 1940, the operator had 91 animal units. He had reduced the mortgage to \$1,900, and it had been taken over by a local bank.

From Near-Bankruptcy to Solvency

The operator struggled for 10 years and failed under the former system of insecurity of tenure, improper land management, and scattered holdings.

In 2 years, under a system of security of tenure, proper land management and well-aligned holdings, the operator progressed from a state of near-bankruptcy to solvency.

Land purchase and development, the institution of a grazing district and its management program, has made it possible to stabilize this unit. The local grazing district allotted the range lands, designating Mr. Henninger's present set-up. That action eliminated competitive bidding and established security of tenure. Through the range survey and the educational program a realization of the productive value of the land has been accomplished.

Security of tenure allowed proper management plans to be instituted. The operator now uses a complete grazing rotation and stocks the range properly. Under this system the range has improved approximately 95 percent faster than surrounding uncontrolled range. Ample grass and water, under proper management, is reflected in the high percentage of calves and top prices for high quality produce. Land values have been stabilized. There is now an incentive to own and control land because, under proper use, it will produce a livelihood for the families remaining in the area.

In Later Issues

"Land Clearing in the Pacific Northwest" is the title of a forthcoming article by Willard W. Troxell and Harry J. Voth. It supplements "Stump Ranching" in the current issue with more detailed information about methods, machines, contracts and costs of this increasingly important work.

Fred A. Clarenbach, associate agricultural economist in the Division of Land Economics, Bureau of Agricultural Economics, has written a significant article on local government reorganization, with especial reference to the Ozark region of Missouri.

"There is much truth in the view that neither an individual nor a governmental unit can long maintain its independence when it cannot pay its way," he writes. "The typical Ozark county cannot pay its own way so long as it is burdened with functions that today belong to the State."

Design for Policy-Making

by HELEN HILL MILLER

JUST WEST of Des Moines, on some of the best land in the Corn Belt, Dallas County typifies commercial scientific farming in high gear. Come September, stockmen listen to midnight radio returns of arrivals at Omaha; when the market seems right, they jump into fast sedans and drive 100 miles before daybreak to take their pick of feeder cattle on the spot when the bidding opens. And they buy up to 600 head at a time.

The average farm is 160 acres; 95 percent of the corn grown in the county is hybrid corn; the fields along the highways sport signs advertising the breeders: De Kalb, I. S. C. Hybrids, Pioneer. The ears on Pioneer 307 are borne at such a uniform height from the ground that they look like a fence panel when seen at 50 miles an hour.

Much of the farm work is tractor-done—big fellows with floodlights for night driving. The third, and in dry years the second, crop of alfalfa is mechanically mown, baled, and trucked from the field in a single afternoon.

The steers and the hogs are fed out of cribs that hold up to 20,000 bushels; they are also fed out of Henry & Morrison, whose "Feeds and Feeding, A Handbook for the Student and Stockmen" is standard farm equipment. These stockmen are students—many of them are graduates of Ames. They know what experiments at what stations are yielding what results. They talk in terms of proteins, vitamin deficiencies, carbohydrates. The most commercially minded among them belong to business associations, which provide central auditing of books—they know their returns per animal unit and per man-hour.

There are only a handful of towns in the county—the county seat and a few shipping points—and the institutions in these centers depend on the surrounding farms. The people on the governing bodies of church, school, and bank are farmers. Through cooperative elevators they have cut margins considerably.

Above the Locker, A Hall

In one town, a merchant recently built a cold-storage locker in connection with his meat and grocery business. Neighbors rent individual drawers in the locker, whose February contents may number fish caught last summer in the river, or bright strawberries from September's everbearing bed.

The space above this locker is the hall where the Dallas County Agricultural Forum meets: For all this efficiency has not left Dallas County without problems.

The pressure of population on the land, the competition of farm families for acres to farm, is acute. On March 1, moving day for Middle Western tenants, *Wallace's Farmer* estimated that 2,000 Iowa farm families were turning uncertainly toward the cities because they could not find a place on the land, and Dallas County contributed its quota to these dispossessed. A traveler in the county hears rumblings that there ought to be a law, that the renting or purchase of additional acres by those who already have farms ought to be heavily taxed.

For those who own or rent farms, operating capital is hard to find, or if not hard to find at any rate hard to pay for. More than one able operator is known by his friends to be "right up against the buzz saw" at the bank. And the more commercial efficiency is put into farming, the greater the farm's sensitivity to prices. Outward signs of the pressure that the big, low-priced corn crops of the last few years are exerting are the bright, round galvanized bins of sealed corn that give the larger farms the appearance of oil refineries; behind these bins around the farmstead stand skeleton windbreaks, drought-killed in 1934 and 1936.

In the Hall, Initiative

Individual economic efficiency is not enough. Farm-population problems, farm-credit problems, farm-price problems require collective treatment. Realizing this, Dallas County farmers have participated largely in the national farm programs. But they have realized something more. They have realized that in a democracy, initiative in these matters must be taken by the citizens, and that initiative begins at the county level.

The Dallas County Agricultural Forum was begun by a group of Dallas County farmers who felt that their political representation could be improved. As a first step, they decided to bone up themselves on the major national issues affecting the farm. They divided up the job, and when they were ready they issued invitations to all the political candidates for the forthcoming election.

The candidates were not allowed to make speeches. They were given an opportunity to answer questions. The members of the forum did the questioning. When the meeting was over, those present had a fairly clear idea of who were the trimmers, who were the ignorant, who were the mongers of catch phrases, who were the well-informed. And who dodged the meeting. The forum itself took no political

stand. It merely commended its members to the guidance of their own consciences, in the light of what they had heard.

From this beginning, the forum turned its attention to further exploration of national issues. During the past year, meetings have been conducted on means of supplying credit for Farm Security Administration clients; on the chemurgic movement and its prospects of industrial uses for farm products; on the reciprocal trade agreement program; on neutrality; on the question, "Is the farm program an economic necessity?"

A Different Adult Education

This is adult education with a difference. Members of the Dallas County Forum—and membership is open—are not consumers on the receiving end of public policy. They make use of materials—books, statistics, pamphlets, issued from a variety of sources. They import occasional specialists—technicians from Ames, journalists from Des Moines—to present short statements before the forum starts. But the forum is self-starting. And once it gets going on a subject, it is on the producing end of public policy.

For some years we have had primaries for candidates for government office, on the ground that it was well for the people as a whole to sort out the candidates, rather than rely on a small party caucus to name the man.

But it is only now that we are creating institutions to serve as primaries for the policies that candidates, when elected, put into effect. The caucus system, outgrown in respect to people, is still in use for ideas. Nominations for public policy are still largely made either by pressure groups, or by advisers to the executive. Such caucuses represent either constituencies of special interest, or no constituency at all.

This caucus system is in force by default, default of the general citizenry to develop a general will in respect to the general welfare. The members of the Dallas County Agricultural Forum are not defaulting. In the course of the past few years they have been over the major national issues with which they have first-hand experience. They believe that the quality of their legislative representation has been improved by their technique.

They are now wondering to what extent the same technique is applicable to the personnel of the administrative agencies active in their area.

The Migrants

This article is the fifth of a series about migration to the Pacific Coast States. It is based on data from surveys undertaken by the Bureau of Agricultural Economics in cooperation with the Idaho and Washington Agricultural Experiment Stations.

V. "Stump Ranching"

by MARION CLAWSON, DAVIS McENTIRE, C. P. HEISIG

DURING THE 1930's many farmers settled on cut-over lands in western Montana, northern Idaho, northeastern Washington, western Washington, and western Oregon. The low cost of these lands and the opportunity to start farming with little capital appealed to many who were unable to find employment elsewhere and who lacked sufficient capital to purchase land in developed farming areas.

Estimates are that about 460,000 persons moved into the Pacific Northwest (Oregon, Washington, and Idaho) in 1930-38. Approximately half of them settled in rural areas. Undoubtedly many thousands settled in cut-over areas, but the exact number is not known.

Only a part, however, of the total recent settlement on cut-over lands is by migrant families from other States. Many of the new settlers came from Pacific Coast cities, seeking an alternative to unemployment. Others were farm tenants and laborers in nearby areas.

439 Families Are Studied

To determine the economic situation of these settlers and appraise the opportunities afforded by settlement on cut-over lands, studies were made in 1939 in two areas in northern Idaho and five in western Washington, where every resident family was enumerated and records were obtained from 267 families, including 151 who settled after 1929 and 116 who had been on their farms from 10 to more than 30 years. In northern Idaho records were obtained from 172 families, all but four of whom had settled there since 1929.

In all the five Washington areas the population from 1930 to 1939 increased more than 100 percent and in two the increase was more than 200 percent.

Thus, in the latter areas, fewer than a third of the families had been there in 1930. A few families may have moved out since 1930 but the outward movement generally has been small. Of the families who settled in these localities since 1929, 31 percent were in the same county before 1930. An additional 24 percent were in other Washington counties before 1930. Thus, more than half of the recent settlers

in the five places came from within the State. Of the interstate migrants, about half came from the Great Plains and slightly more than a fourth from Pacific and Intermountain States. In northern Idaho, more than 60 percent of the settlers came from the Great Plains.

TABLE 1.—*Families settled before 1930 and still in area in 1939, and recent settlers, 5 areas in western Washington*

Area	County	Settled before 1930	Settled from 1930 to Apr. 1, 1939	Total families in area, Apr. 1, 1939	New settlers, percentage of older settlers
Yacolt.....	Clark.....	59	125	184	212
Salkum.....	Lewis.....	93	99	192	106
Duval.....	King.....	39	97	136	249
Monroe.....	Snohomish.....	117	164	281	140
Getchell.....	do.....	120	138	258	115
All.....	428	623	1,051	146

Families of the new settlers (since 1929) averaged 4.3 persons in northern Idaho and 3.9 persons in western Washington. The new settler families have relatively more young people and fewer old people than are found in either the farm population or the general population of the Pacific Northwest. Nearly a third of all persons in the new settler families of northern Idaho were under 15 years, while fewer than 10 percent were more than 55 years old. However, nearly half of the family heads are more than 50, and therefore, in many cases, the ultimate clearing of the farm will depend on the younger members of the family.

From Tenants and Laborers to Owners

Settlement on cut-over land often has meant a shift from a tenant or laborer status to farm ownership. Fewer than a third of the northern Idaho settlers had been farm owners before moving to their present places; 40 percent had been either renters or farm laborers; 30 percent had been engaged in nonagricultural work. On the cut-over land, however, 90 percent were owners or purchasers on contract; nearly four-fifths of the former tenants and farm laborers had become owners while all of the former nonagricultural group were buying farms. Ownership consisted, however, of an equity in an undeveloped "stump ranch."

The Washington localities typify conditions common to the cut-over Douglas fir region west of the Cascades. Except in the higher moun-

tain areas, most of the timber in this region was logged off more than 30 years ago and land clearing for agriculture has been in progress ever since. The many stumps are large and decay very slowly; agricultural development therefore has been slow. Most farms still have uncleared land within their boundaries, and many extensive areas are in practically the same condition now as when the timber was first removed. In northern Idaho, however, the stumps, mostly pine, are smaller and rot more readily. Clearing is easier and more can be accomplished with limited means. Even here, however, agricultural development has been slow and the land is largely still covered with stumps, brush, and second-growth timber.

Nearly 60 percent of the settlers in northern Idaho and nearly 40 percent of those in western Washington obtained less than 1 acre of cleared land at time of settlement. Only a few have had the capital to buy or rent improved farms. The quality of soil on these farms varies.

Anyone driving through the cut-over areas would wonder how these people make a living at all. The present study reveals a high degree of dependence on nonfarm income by nearly all settlers. Net family cash receipts in 1938 averaged \$500 for settlers on new farms in western Washington and \$491 for the northern Idaho settlers. In western Washington, cash farm expenses on farms settled since 1929 exceeded cash farm receipts so that these new farms (on the average) contributed less than nothing to the settlers' family cash income, although appreciable noncash contributions were made by the farm to family living.

64 Percent of Cash Receipts or Less From Farms

The uniformity in the amount of net family cash receipts reported by farmers in the different sizes, types, and age groups of farms is surprising. On a few relatively large, old farms in two sections of western Washington were operators able to obtain somewhat higher incomes than were operators on other farms. With these exceptions, the net family cash receipts averaged between \$400 and \$600. Settlers on the smallest and least developed group of farms received approximately as much cash income from all sources as did operators of larger, older, more developed farms.

The explanation of this relative uniformity of cash income lies in the sources from which these funds were obtained. On the larger and older farms approximately 64 percent of the net family cash receipts came from the farm itself. The smallest and least developed farms, on the other hand, contributed less cash than was spent for their development, but the families received more than half of their income from public assistance (WPA, CCC, direct relief, etc.). Off-

TABLE 2.—Distribution of farms by number of acres cleared at time of settlement; all settlers who moved to present farm since 1929

Number of acres cleared at time of settlement	Western Washington		Northern Idaho	
	Number of farms	Percent of total	Number of farms	Percent of total
0-0.9.....	56	37.1	97	57.1
1-2.9.....	41	27.1	13	7.6
3-6.9.....	16	10.6	13	7.6
7-14.9.....	19	12.6	13	7.6
15-29.9.....	11	7.3	14	8.3
30 and more.....	8	5.3	20	11.8
All farms.....	151	100.0	^a 170	100.0

^a Includes 4 settlers who settled before 1930, not separately tabulated.

TABLE 3.—Selected measures of farm organization and income, new and old farms in western Washington and new farms in northern Idaho

Item	Western Washington		Northern Idaho
	Old farms ^a	New farms ^b	
Number of farms.....	148	119	^c 172
Size of farm, acres.....	77.4	37.5	95.7
Crop land, acres.....	16.9	2.8	11.9
Productive animal units.....	11.5	3.9	3.6
Horses and mules.....	1.5	.5	1.2
Cash receipts 1938: ^d			
Cash farm receipts less cash farm expenses ^e	\$185	\$-45	\$69
Off-farm employment (nonrelief).....	202	225	320
Public assistance.....	76	256	55
Other cash receipts.....	77	64	47
Net family cash receipts.....	540	500	491

^a Farms developed before 1930.

^b Farms developed in 1930 or after.

^c Includes four farms developed before 1930 but not separately tabulated.

^d For western Washington, Apr. 1, 1938, to Mar. 31, 1939.

^e Farm cash receipts less expenses, but not including inventory changes, interest, or depreciation.

farm employment was important for all groups of farms, but its relative importance varied from 23 percent of total income on the group of largest farms to nearly half of the income received by operators of the smallest farms. Net cash receipts from the farm varied much more than receipts from off-farm employment. Public assistance also varied widely among different groups of farms but total receipts from all sources were remarkably consistent.

A somewhat similar situation prevailed in northern Idaho, although public assistance was much less important there than in western Washington. Less than a fourth of the Idaho settlers received public aid, and such assistance contributed only about 11 percent of the net cash receipts of the group. For the Idaho settlers as a whole, net cash receipts from farming amounted to less than one-seventh of the total cash income from all sources.

The settlers earned nearly two-thirds of their cash income through off-farm employment. However, the relative importance of both off-farm employment and public assistance declined considerably with increased length of settlement, as settlers were able gradually to clear land for farming. Net cash receipts from the farm increased from less than nothing in the group of smallest and least developed farms to more than \$500 for farms with 30 acres or more cleared land.

The Part of Public Assistance

A larger proportion of the Idaho settlers had extremely low incomes and a larger proportion received relatively higher incomes than was true of the western Washington group. In part, the greater uniformity of western Washington incomes probably reflects the leveling influence of public assistance. In part also, the difference is attributable to a wider range in number of cleared acres among the northern Idaho farms.

Besides cash receipts, many settlers increased their crop and live-stock inventories from \$10 to \$250. The majority were also clearing land and making other improvements to their farms. Products from the farm, important noncash items in the family living, were valued at \$200 to \$300 for most groups of farms. The farms with little or no cleared land produced much less than this, while the larger and older farms supplied the family with a larger share of their living.

Poor Houses, Slow Progress

Living conditions in these cut-over areas are poor. The typical dwelling is a log or rough board structure with three or four rooms, unpainted, an unfinished interior, and a shake roof. The number of rooms per person was 1.0 in western Washington and 0.8 in northern Idaho. Only 8 percent of the farm homes in northern Idaho and 21

percent of those in western Washington had running water in the house. Few had bath rooms.

Progress on stump ranches is generally slow. An undeveloped cut-over farm does not provide a livelihood, and, unless the settler has substantial capital resources, he must find employment of some kind. If he works away from the farm, he cannot clear much land. In any case, some cash is needed for clearing. More than 30 percent of the new settlers in western Washington and 27 percent of the Idaho settlers had cleared no land at all since settlement.

For those settlers who were clearing land in western Washington, the modal rate of clearing was from one-quarter to three-quarters of an acre a year. Fewer than 30 percent were clearing more than an acre per year, and only 2 settlers out of 151 had succeeded in clearing 5 or more acres annually.

Relatively little clearing can be done by the farmer and his family without expensive machinery. Recent years have witnessed the development of machine methods of clearing land with resulting material reduction in costs. Studies of clearing costs indicate that western Washington cut-over land can be cleared by machines at a cash cost of \$20 to \$80 an acre depending on the density, size, and age of stumps. Machine clearing, however, requires a cash outlay which most settlers are unable to afford. Consequently, they either clear not at all, or using old-fashioned methods requiring little cash but much labor, gradually work the stumps out of a half acre or so a year.

To Clear 1.7 Acres or Less a Year

Settlers in northern Idaho were clearing at an average rate of 1.5 acres a year or about three times as rapidly as western Washington settlers. The cost of clearing averaged \$20 an acre. Of this about \$6 was a cash cost. The rate of clearing was influenced considerably by presence of work horses on the farm and by loans from the Farm Security Administration for buying blasting powder. Settlers who had neither work horses nor powder loans cleared only 0.6 acre annually on the average. Settlers with horses but not powder loans cleared 1.5 acres a year, and settlers with both horses and powder loans averaged 1.7 acres. More clearing was done on farms on which there was a large supply of family labor than on farms where family labor was unimportant.

Farmers who settled on cut-over land since 1929 averaged 11.9 acres of crop land per farm in 1939 in northern Idaho and 8.8 acres per farm in western Washington. Farm management studies indicate that an adequate size family farm in these same areas should have from 30 to 60 acres of crop land, depending on quality of the soil. On the basis of observed average rates of clearing, from 10 to 30 years

TABLE 4.—*Distribution of farms by number of acres cleared per year since settlement; all settlers who moved onto present farm since 1929, western Washington and northern Idaho*

Number of acres cleared annually	Western Washington		Northern Idaho	
	Number of farms	Percent	Number of farms	Percent
None.....	46	30.4	46	27.0
0.01 to 0.24.....	14	9.3	17	10.0
0.25 to 0.49.....	22	14.5	11	6.5
0.50 to 0.74.....	19	12.6	11	6.5
0.75 to 0.99.....	6	4.0	10	5.9
1.0 to 1.49.....	14	9.3	28	16.5
1.5 to 1.9.....	11	7.3	10	5.9
2.0 to 2.9.....	8	5.3	13	7.6
3.0 to 4.9.....	9	6.0	13	7.6
5.0 to 9.9.....	2	1.3	8	4.7
10.0 and over.....			3	1.8
All.....	151	100.0	170	100.0

would be required to clear a family size farm in northern Idaho and from 25 to 50 years to clear one in western Washington.

Comparatively few of the present settlers will ever live to see their farms fully improved, unless some means is worked out for more rapid clearing than settlers have been able to attain thus far.

The rehabilitation of these settlers as self-supporting farmers depends on increasing their ability to clear land; the use of large machinery for land clearing has not materially helped the new settlers because they cannot pay cash for clearing. The Farm Security Administration has made loans in northern Idaho for the purchase of blasting powder and has financed a cooperative machine clearing association in one county in western Washington with apparent good results, but the scope of these measures has been very limited thus far.

A more general program for Government aid in clearing land, with a repayment plan similar to that now in effect for irrigation projects would place the settler on cut-over lands in a very much more favorable position than he now is. At least it should permit substitution of income from farming for income now received from public assistance.



Books

FARM APPRAISAL: CLASSIFICATION AND VALUATION OF FARM LAND AND BUILDINGS. William G. Murray. Ames, Iowa. The Collegiate Press, Inc. 254 pp. 1940. \$2.25

By S. W. MENDUM

THIS BOOK is a college text replete with specific helps from the author's long and varied practical experience in agricultural finance. It is, moreover, adapted to personal study in the way of catching up on the newer requirements of appraisal procedure. The information that a qualified appraiser must now bring to current assignments is vastly greater than that called for perhaps as recently as 20 years ago.

The plan of the book is to take the reader through the individual steps in actual appraisal procedure as the most effective way of presenting the principles. Making an inventory of physical resources on a farm is discussed first, and the translation of this inventory into dollar value second. Three farms on different levels of productivity are cited to illustrate points of practice and the reader is urged to read with reference to some farm of his own selection for practice. Each chapter suggests one or more problems and each has its list of references. There are 12 appendix sections including tabulated general information and forms.

The 18 chapters describe in detail what to do at each step, how to do it, and why one school of appraisers differs from another when there is more than one choice. At most steps, it seems that the instructions are primarily for the purpose of practice, in order that the learner's judgment may be correctly built up. For, after all, an appraisal is "a judgment or estimate and not a measurable fact."

Having examined the description to be sure that the appraisal to be made will be that asked for, and having mapped the farm and rated its crops, soils, and other evidences of productivity or lack of it, it is necessary to apply appropriate prices to products and to estimate the future expenses. As to prices, for example, "for farm X a set of prices equivalent to corn at 60 cents a bushel gives a production value of \$150 an acre; at 50 cents a bushel a value of \$114." As to taxes, "a record of the past is desirable insofar as it points out the 'most likely' tax in the future."

PRACTICAL FARMING FOR BEGINNERS. *H. A. Highstone. Harper and Brothers. New York. 198 pp. 1940. \$2.50*

By DONALD R. RUSH

A VERY readable and practical treatise on farming for beginners has been written by Mr. Highstone. The cautions and advice given would prevent many of the disastrous experiences and failures now common among city folk who endeavor to achieve independence through the purchase of a piece of land. As the author indicates, "To know and to understand the reasons behind these failures is to have taken the first step toward success."

It is common knowledge among agriculturalists that urban people have an almost universal tendency to minimize the skills, techniques, and understanding needed to operate successfully even a small farm. This tendency is fully considered and is the basis for much of the discussion. Reading this book should convince the most enthusiastic and inexperienced would-be farmer that "rural independence is achieved by no easy, automatic process."

The discussion of the procedures and techniques of farming is well done in simple, direct language. The author discusses some of the basic procedures used in the production of hay and grain and in caring for livestock which are "so simple and so thoroughly understood by all farmers that they are almost invariably omitted from farm bulletins and books." Specific sources of technical information on a particular enterprise are given. The correlation of the discussion in the text with material available from other sources is particularly good. The author constantly advises the beginner to follow closely the instructions and advice contained in bulletins of the Federal and State Departments of Agriculture. He states that short cuts and deviations are unwise and often cause disaster to a particular enterprise. He warns further that the basic knowledge contained in his book is necessarily an abbreviated outline and would serve only to get one into trouble if a person attempted to use it as a textbook.

The author's contention that "truck gardening and chicken raising appear simple on the surface, but actually they are far more complex and time-consuming than growing hay and grain, or managing livestock" is well taken. The prevailing impression among beginners that a small chicken ranch or truck garden will provide a good living with a relatively small investment justifies devoting a chapter to each of these enterprises. Mr. Highstone does not minimize the place that poultry and a garden have in the organization of a self-sufficient farm, but he makes some very pertinent and shrewd comments on the fallacy of believing that these enterprises are an easy road to financial independence.

Contributors to this Issue

W. F. WATKINS has had long experience in conservation work. After graduation from Iowa State College with a master's degree in soils, he was employed by the Government as a conservationist in Iowa. Then followed 4 years of farming. He was a member of the Soil Conservation Service when he joined the Bureau of Agricultural Economics last year as principal soil conservationist.

Before becoming chief program analyst in B. A. E., RAYMOND C. SMITH was the director of Region III, Farm Security Administration. Proposals for a rural-conservation works program developed by an Inter-Bureau Coordinating Committee under his chairmanship, have been accorded wide attention.

Two members of the Division of Farm Management and Costs, B. A. E., contributed book reviews to this issue, S. W. MENDUM, senior agricultural economist, and DONALD R. RUSH, agricultural economist.

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DR. HELEN HILL MILLER is a farmer, operating 70 acres in Fairfax County, Va., and specializing in hybrid corn and cattle; a student of political science and sociology, with degrees and diplomas from universities in Chicago, Oxford, and Geneva, and a senior agricultural writer in B. A. E. She finds time also to teach a course at St. John's College, Annapolis, Md.

"Some of the changes referred to in my article touched me very closely," writes OMER L. HIRST. "When I was a high-school boy some 12 years ago, I spent the summer vacations doing farm work on neighboring farms. Today the farms in my community are nearly all gone, and while I still live in the same house in which I was born, I now sell real estate for a living, and the high-school boys now work at filling stations or get part-time jobs in the city." He was the head of the chamber of commerce committee referred to in his article, and secretary of the Citizen's Advisory Committee on Reassessment. He lives near Alexandria, Va.

MARION CLAWSON, until recently a member of the Division of Farm Management and Costs, B. A. E., stationed in Berkeley, Calif., is now field representative of the Columbia River Joint Investigation. C. P. HEISIG is acting leader of the far Western area of the Division. DAVIS McENTIRE is the leader of the Division of Farm Population and Rural Welfare at Berkeley.

LAND POLICY REVIEW

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